

Abstract

A confocal displacement sensor is created in which, through a graduated arrangement of optical outputs relative to an imaging optic in the object area of displacement sensor, real images of the optical outputs can be created at different heights. A surface to be measured, which is located in the area between the real images, at least partly scatters back illumination beams emitted by the optical outputs. As such, two measurement beams are created for which the intensities are each recorded by a light detector. This is done by interpolation between the measured light intensities. The height position of the scanned points of the surface can be calculated and the surface to be measured can be measured simultaneously at a number of scanning points. Two planar light sources are preferably used for light generation and two planar high-resolution cameras for light detection.